

***I Claim:***

1. A method of controlling pulsed AC power that is supplied to a load wherein the  
2 AC power has a waveform in which alternating positive and negative power  
3 segments are separated by off segments, and wherein said load produces a reverse  
4 emf pulse at the commencement of at least certain ones of the power segments,  
5 comprising:

6 -- (a) detecting the magnitude of the reverse emf pulse at the commencement of at  
7 least certain ones of said power segments; and  
8 -- (b) adjusting the applied AC power being applied to the load based on the  
detected magnitude of the reverse emf pulse.

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2. The method according to Claim 1 wherein said detecting the magnitude  
includes detecting the peak voltage of said reverse emf pulse.

3. The method according to Claim 2 wherein said detecting the magnitude  
includes detecting the width of said reverse emf pulse.

1 4. A method of controlling pulsed AC power that is supplied to a load wherein the  
2 AC power has a waveform in which alternating positive and negative power  
3 segments are separated by off segments, and wherein said load produces a reverse  
4 emf pulse at the commencement of at least certain ones of the power segments such  
5 that there is a notch defined between the reverse emf pulse and the following  
6 power segment, comprising:

7 -- (a) detecting the magnitude of the notch between the reverse emf pulse and the

8           associated power segment; and

9    -- (b) adjusting the applied AC power being applied to the load based on the  
10           detected magnitude of said notch.

1    5. The method according to Claim 4 wherein said detecting the magnitude  
2    includes detecting the voltage depth of said notch.

1    6. The method according to Claim 1 wherein said detecting the magnitude  
2    includes detecting the width of said notch.